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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/063,878 | 05/21/2002 | Hung-Sheng Hu | ACMP0016USA | 2449 |

27765 7590 10/03/2003

NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)
P.O. BOX 506
MERRIFIELD, VA 22116

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| EXAMINER |
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MACARTHUR, SYLVIA

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| ART UNIT | PAPER NUMBER |
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1763

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|---|--|---|--|
| <p style="text-align: center;">Office Action Summary</p> | <p>Application No.</p> <p>10/063,878</p> | <p>Applicant(s)</p> <p>HU ET AL.</p> | |
| | <p>Examiner</p> <p>Sylvia R MacArthur</p> | <p>Art Unit</p> <p>1763</p> | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 4-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al (US 6,171,437).

Regarding claim 1: Shimizu teaches a semiconductor manufacturing device comprising a base 11, first isolation ring 18 positioned on the base and fixture 15 for fixing the wafer on the base. The wafer adheres to the first isolation ring so as to isolate the predetermined area from the etching solution.

Regarding claim 2: Fig. 1 illustrates that the fixture fixes the wafer to the base, the second surface of the wafer faces toward the base and the first isolation ring surrounds the predetermined area.

Regarding claim 3: Screws 15 serve as clamps to clamp the wafer on the base.

Regarding claim 14: Figs. 1-4 illustrate base 11 as a hollow cylinder comprising a lip surrounding a bottom end of the hollow cylinder. The first isolation ring is illustrated as being placed on the lip and adhering to the first surface of the wafer.

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Regarding claim 15: Col. 3 lines 29-67 teaches pressure (an external force) is applied to the first isolation ring where the rings distort and the wafer is adhered to the first isolation ring.

Regarding claim 16: The type of substrate the apparatus utilizes is not given patentable weight. Thus the apparatus Shimizu is inherently capable of using a silicon wafer.

Regarding claim 17: These are process limitations and are not given patentable weight. However, Shimizu does cite that the invention is used in the etching process. Thus, the apparatus by Shimizu is inherently capable of forming a plurality of chamber in the wafer and ensuring that each chamber is connected to a corresponding manifold.

3. Claims 1-3 and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Witcraft et al (US 5,280,894).

Regarding claim 1: Witcraft teaches a fixture for backside wafer etching. The device comprises a base 50, a first isolating ring (O-ring 70) positioned on the base; and a fixture (clamp 30) wherein the fixture fixes the wafer on the base, the wafer adheres to the first isolation ring so as to isolate the predetermined area from the etching solution.

Regarding claims 2 and 3: The abstract cites that the pin and hole arrangement help align the clamp to the base.

Regarding claim 14: Figs. 1 and 2 illustrate base 50 as a hollow cylinder comprising a lip surrounding a bottom end of the hollow cylinder. The first isolation ring is illustrates as being placed on the lip and adhering to the first surface of the wafer.

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Regarding claim 15: Col. 2 lines 49-68 teaches pressure (an external force) is applied to the first isolation ring where the rings distorts and the wafer is adhered to the first isolation ring 70.

Regarding claim 16: The type of substrate the apparatus utilizes is not given patentable weight. Thus the apparatus Witcraft is inherently capable of using a silicon wafer.

Regarding claim 17: These are process limitations and are not given patentable weight. However, Witcraft does cite that the invention is used in the etching process. Thus, the apparatus by Shimizu is inherently capable of forming a plurality of chamber in the wafer and ensuring that each chamber is connected to a corresponding manifold.

Allowable Subject Matter

4. Claims 4-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or fairly suggest a second isolation ring.

Conclusion

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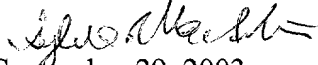
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 703-306-5690.

The examiner can normally be reached on M-F during the core hours of 8 a.m. and 2 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Sylvia R MacArthur
Patent Examiner
Art Unit 1763


September 29, 2003